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Self-complexity and higher- and lower-order self assumptions as predictors of coping with traumatic events.

Hillary Jean Morgan
University of Massachusetts Amherst

SELF-COMPLEXITY AND HIGHER- AND LOWER-ORDER SELF ASSUMPTIONS AS PREDICTORS OF COPING WITH TRAUMATIC EVENTS

A Thesis Presented

by

HILLARY JEAN MORGAN

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Approved as to style and content by:

Ronnie Janoff-Bulman, Chair

Seymour Epstein, Member

Arnold Well, Member

Charles Clifton, Acting Department Head
Department of Psychology

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ABSTRACT

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HILLARY JEAN MORGAN, B.A., POMONA COLLEGE
M.S., UNIVERSITY OF MASSACHUSETTS

Directed by: Professor Ronnie Janoff-Bulman

The main hypotheses of this study were that high positive self-complexity will be associated with less symptomatology in the traumatized, and that traumatized people low in symptomatology will have more positive higher- and lower-order beliefs about themselves than traumatized people high in symptomatology. College students in small groups completed a self-complexity and self assumptions task, the Rosenberg Self-esteem Inventory (RSI), seven scales from the Constructive Thinking Inventory (CTI), the Symptom Checklist Revised (SCL-90-R), and a questionnaire asking them to identify specific negative life events they have experienced and rate how traumatic those events were for them. Subjects who stated that at least one of the negative life events they experienced was extremely traumatic were considered traumatized. Traumatized subjects were then divided by a median split on the Global Severity

Index of the SCL-90-R into a group with high symptomatology, T-HI, and a group with low symptomatology, T-LO.

T-LO and untraumatized subjects had more positive higher- and lower-order self assumptions than T-HI. Although it was hypothesized that T-LO would have fewer positive lower-order assumptions than the untraumatized, both groups had equally positive assumptions. Traumatized and untraumatized subjects did not differ on the Constructive Thinking Inventory, but within the traumatized group, T-LO scored significantly better than T-HI. T-LO and T-HI did not differ on the type of negative events they reported experiencing nor in their ratings of the intensity of these events.

High positive self-complexity was associated with good functioning (high self-esteem, good CTI scores) in the traumatized but unrelated to functioning in the untraumatized. High overall complexity was related to poor functioning in the untraumatized but unrelated to functioning in the traumatized. High negative self-complexity was correlated with low functioning in all subjects. The possibility that the number or proportion of negative and positive subselves is as good a predictor of symptomatology as self-complexity is discussed.

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CHAPTER 1

INTRODUCTION

People show a wide range in their ability to cope with traumatic experiences (Silver & Wortman, 1980). Some people are devastated by a trauma and become progressively more disabled while others emerge largely unaffected. Although this finding is well-documented, many researchers have assumed that people cope with trauma in uniform ways and have formulated models that outline the stages all people pass through as they cope with these events. There is little evidence for the validity of these models (Silver & Wortman, 1980). Variability in coping ability is the rule even when individuals are experiencing the same trauma, such as cancer (Taylor, 1983) or the death of a child (Silver & Wortman, 1980).

The factors that lead individuals in the same circumstances to cope differently are largely unknown, but it seems clear that people do not respond to the events themselves, but to their perception of the events (Epstein, in press). Janoff-Bulman (1989b) suggests that people will experience emotional distress and perceive an event as traumatic only if the event is seriously incongruent with their previously held beliefs about the world, themselves or other people. These beliefs are collectively labelled "assumptive worlds," (Janoff-Bulman, 1989a, 1989b; Parkes, 1971, 1975). If two people have different assumptive

worlds, one person may experience an event as traumatic and the other may not. Yet most people in our culture have similar assumptive worlds, at least at the most general level. People believe that the world is good, just, and predictable, that other people are good and helpful, and that they themselves are good and worthy (Janoff-Bulman, 1989b). While Janoff-Bulman believes that people's optimism is held in these three domains, the majority of studies have focused only on people's views of themselves. Due to constraints on the size of this study, and the fact that the relevant literature often discusses beliefs about the self alone, this study will focus only on beliefs about the self.

Self Assumptions

Taylor & Brown (1988) found that most people hold positive beliefs about themselves even when they are unwarranted. Intuitively this may appear pathological, but the evidence is to the contrary. People with high self-esteem overestimate how well they have performed on a task and the amount of control they have in different situations. Moreover, these overestimations are associated with greater happiness, caring for others, and productivity. For this reason, several researchers have argued that positive assumptions about the self are vital for optimal mental functioning.

How can this be adaptive? If we believe we are right when our solutions are wrong, or we feel in control of an uncontrollable situation, we may do harm to ourselves or others. Epstein (1980, 1990) has formulated one possible solution to this paradox, which is derived from the assumption that people's beliefs about themselves are arranged in a hierarchy (Epstein, 1973). People's beliefs about themselves range from beliefs about specific aspects, such as "I am a good dancer", to global generalizations, such as "I am a good person." Janoff-Bulman (1989b) argues that most people hold overly optimistic assumptions at the highest, most general level only, not at the more specific levels. It is difficult to challenge these high-order assumptions because they are so abstract. People can test specific beliefs, such as a belief that they will get an "A" on an exam, but how can they measure whether or not they are a good person? Because it is so difficult to disconfirm high-order assumptions, these rosy beliefs are protected from being disconfirmed even though people may have specific experiences that appear inconsistent with them.

Trauma as a Challenge to Self Assumptions

We rarely encounter circumstances that lead us to challenge the validity of our most general assumptions, yet such a challenge can happen when we experience traumatic events. Most people's higher-order assumptions include

beliefs that terrible events cannot happen to them. Yet even when terrible events do occur, Janoff-Bulman (1989b) argues that it is adaptive for people to maintain their positive assumptions. People who cope poorly are those who react to victimization by making their higher-order assumptions very negative. But maintaining positive assumptions in the face of trauma is a difficult order. Victims must engage in one or more coping strategies that will help them to perceive the traumatic event as more benign.

Coping as an Effort to Maintain Self Assumptions

Theorists such as Thompson (in press) have attempted to identify these strategies. She found that some victims who cope well with trauma may focus only on the positive impact the event has had on them. Victims of cancer may consider their illness an opportunity to get perspective on life. They may feel that life is more meaningful now than it was before the diagnosis. Clearly, if people successfully interpret a traumatic event as a positive experience the event will be congruent with, and not challenge, positive higher-order beliefs.

Taylor (1983) has found that victims engage in other coping strategies that protect their higher-order beliefs. She found that breast cancer patients cope better if they are able to maintain their belief that the world is

controllable and meaningful. She describes how many of the women she studied attempted to find a logical cause for their cancer. In some cases their theories about the cause were not viable (such as a car accident, or being hit by a frisbee). When doctors explained that these specific causes were not feasible, these women still believed that there must be some logical cause. They did not change their higher-order assumption: they simply concluded that the cancer was not caused by the specific event they had in mind. They then derived another reason why their cancer occurred.

Coping and the Hierarchy of Self Assumptions

Even when we engage in good coping strategies the impact of traumatic events can be negative. If, prior to victimization, we did not believe that such negative events could happen to us, we must be able to account for this contrary new information by assimilating the experience or changing our belief system at some level. People may cope better with trauma if they are able to confine the impact of traumatic events to specific cognitive domains, changing their beliefs at a lower level while keeping the higher structures intact (see Janoff-Bulman, 1989b). If people react to trauma this way, they will have the protection of accurate perceptions of specific dangers, yet will still maintain their optimism. Trauma researchers predict that

good copers should show this pattern. Poor copers should be unable to confine the negative event to lower-order domains and should have negative lower- and higher-order beliefs. If these two patterns are accurate, we should be able to identify people who cope well with trauma and people who cope poorly by examining their belief structures.

Janoff-Bulman (1989a) has demonstrated that the higher-order assumptions of victims are more negative than the assumptions of people who have not been victimized, yet it is possible that a subgroup of victims, those coping well, have higher-order assumptions that are just as positive as non-victims. Fletcher (1988) found support for this hypothesis in his study of Vietnam veterans. He divided his sample of veterans who had experienced combat for at least six months into those who were diagnosed with Post-Traumatic Stress Disorder (PTSD) approximately fifteen years later and those who were not. When he compared these groups with a group of veterans who did not experience combat (and were thus untraumatized), he found that the Post-Traumatic Stress Disorder group had more negative higher-order assumptions than the other two groups.

Recent research suggests that in certain cases people who have experienced disruptive negative events may have higher-order assumptions that are as positive as people who have not been victimized, while some of their lower-order assumptions may be more negative. Franklin, Janoff-Bulman

and Roberts (1989) compared adult children of divorced parents with adult children from intact families. They found that these two groups had equally positive higher-order assumptions, yet the children of divorced parents had more negative specific lower-order beliefs. Children of divorce were less optimistic about the success of their future marriages, and were less trusting of their parents and their own future marriage partners. Franklin et al. then divided the parental divorce group into a group whose parents had a highly conflictual relationship and a group whose parents had a more conflict-free relationship. People in the conflict-free group had the same pattern of results as the general children of divorce group, whereas those in the high conflict group had negative higher-order and lower-order assumptions.

Self-complexity and Coping with Negative Life Events

The work of Linville (1985, 1987) is very relevant to the ideas presently proposed. Like researchers discussed previously, Linville believes that people who cope well with negative events limit the impact of these events to specific cognitive domains (self aspects, or "subselves"), while poor copers are more globally affected. For poor copers, negative events not only influence the relevant domains, but will influence other less-relevant domains as well,

producing an overall negative effect. Linville suggests that these two coping variations are the direct result of a person's level of self-complexity. She defines self-complexity as a function of the number of subselves (such as identities or roles) that people hold, and the amount of overlap among those subselves. People low in self-complexity have few subselves with little overlap, or few or many subselves with lots of overlap. People can only be high in self-complexity if they have a large number of non-overlapping subselves.

People high in self-complexity are less likely to have negative experiences in one domain of their lives affect other domains because these domains are largely independent. For example, if a woman has several subselves such as musician, mother, healer, and athlete, and these domains are very distinct, if she loses a major athletic competition it is less likely to affect how she feels about herself as a mother or musician than if these subselves were more highly related. Similarly, if she had won that competition it would also have less of an impact on how she feels about herself than if her subself "athlete" was more closely related to her other subselves. Because low self-complex people have a less differentiated sense of themselves they are more globally affected by both positive and negative events than people who are high in self-complexity.

Linville (1985) found that people low in self-complexity experienced more extreme global mood shifts in response to success or failure feedback than people high in self-complexity. She also found that low self-complex people became more depressed than high self-complex people when they experienced stress over a two week period (1987), thus she argues that high self-complexity is a buffer against stress. Interestingly, under low stress conditions people high in self-complexity experienced somewhat more depression than low self-complex people. Linville claims that under low stress conditions having a large number of independent subselves may increase overall stress due to competing demands of the multiple roles. Yet compared to major traumatic events, the day to day stressors these people experienced were relatively minor. It is possible that self-complexity serves as a buffer against traumatic stress as well as these minor stressors.

The Operationalization of Self-complexity

The details of how self-complexity is measured are described in the Method section. Briefly, it is important to mention here that Linville gave subjects thirty-three adjectives and asked them to sort these adjectives into clusters that defined particular aspects of themselves. Self-complexity was determined by the number of subselves subjects identified, how many adjectives they used, and how

often they used the same adjectives across subselves. Therefore, a subject's self-complexity score was completely dependent on the nature of the adjectives Linville selected and on how relevant the particular adjectives were to that subject. In this study, I pretested Linville's adjectives and found that subjects viewed them as positive and not variable. Because this study is concerned with the impact of extremely negative events on subselves, I added a number of more extreme and variable adjectives to Linville's list. The nature of the new adjectives changes the self-complexity hypotheses.

Positive, Negative, and Overall Self-complexity

Linville (1985) suggested that some subselves are positive and some are negative, yet most subselves are a mixture of positive and negative dimensions. However, it is unlikely that she captured the full range of her subjects' self-complexity because the adjectives she gave her subjects were limited. It is possible that she was identifying neutral to somewhat positive self-complexity rather than self-complexity across a broad range of positive and negative domains. Because the adjectives in this study are more extreme than Linville's, this measure is tapping a wider range of complexity. There are many negative adjectives in this new list, so people who only feel positively about themselves have a smaller range of

adjectives to chose from than those who feel positively and negatively. Therefore people who only feel positively about their subselves will chose fewer adjectives and have lower overall self-complexity than people who feel positively and negatively. The range of adjectives in this study opens up the possibility of exploring the spread of positive and negative dimensions across subselves: positive and negative self-complexity.

This study examines the impact of positive, negative, and overall self-complexity for traumatized and untraumatized subjects. Because positive self-complexity is most like the type of self-complexity Linville studied, it is the only type of self-complexity expected to be a buffer against trauma. High positive self-complexity should be associated with better functioning in traumatized subjects. Positive self-complexity should be unrelated to functioning in the untraumatized, or slightly related to poorer functioning. High negative self-complexity, because it is a function of a greater number of negative dimensions, should be associated with poorer functioning in all subjects. Overall complexity is a combined measure of positive and negative self-complexity. Higher overall self-complexity should be associated with lower levels of functioning in the untraumatized because positive self-complexity does not increase functioning and negative self-complexity decreases it, producing a negative average value.

Overall self-complexity should be unrelated to functioning in the traumatized because the buffering effect of positive self-complexity will be canceled by the deleterious effects of negative self-complexity.

Constructive Thinking as a Measure of Coping Ability

These types of self-complexity are not the only variables potentially associated with coping. Because this study is more generally concerned with coping with trauma, a second measure of coping ability was included, seven scales from Epstein's (1987) Constructive Thinking Inventory (CTI): Global Constructive Thinking, Emotional Coping, Behavioral Coping, Superstitious Thinking, Naive Optimism, Categorical Thinking, and Esoteric Thinking. Epstein (in press) found that Global Constructive Thinking, Emotional Coping, and Behavioral Coping were negatively correlated with psychological and physical symptoms, while Superstitious Thinking was positively correlated with these symptoms. Esoteric Thinking was correlated with physical symptoms only, and Naive Optimism and Categorical Thinking were unrelated to symptomatology.

If constructive thinking is a stable trait, then it should not be altered by life events. Therefore it was predicted that the traumatized and the untraumatized should not differ on these seven scales. This study also attempted

to replicate Epstein's findings using the Global Severity Index of the SCL-90-R as a combined measure of physical and emotional symptoms. It was hypothesized that traumatized respondents with low symptomatology (T-LO) would have higher Global Constructive Thinking, Emotional Coping, and Behavioral Coping scores, and lower Superstitious Thinking scores than traumatized respondents high in symptomatology (T-HI). Because Epstein found that Esoteric Thinking only correlated with physical symptoms, it is unlikely to differentiate the two traumatized groups. T-LO and T-HI were also compared with the untraumatized on these measures, and it was predicted that T-LO and the untraumatized will score similarly while T-HI will score worse (lower Global Constructive Thinking, lower Emotional Coping, lower Behavioral Coping, and higher Superstitious Thinking). The four scale patterns associated with low symptomatology should be related to high positive self-complexity in traumatized subjects, and the four scale patterns associated with high symptomatology should be related to high overall self-complexity in untraumatized subjects, and high negative self-complexity in all subjects.

Trauma as a Subjective Experience

As mentioned previously, people experiencing the same event can have very different interpretations of that event.

One person experiencing a negative life event may find it minimally distressing and another may perceive it as extremely traumatic. However, in most trauma research, people's subjective experience of negative life events are not used as a criterion to classify them as traumatized or untraumatized. Typically, experimenters identify events that they consider to be traumatic and label their subjects as traumatized or untraumatized depending on whether or not they have experienced one or more of these events. On the surface this method may seem adequate, but it is biased in two ways. First, some subjects who have experienced an event the experimenter has labelled "traumatic" may feel unaffected by the event, yet they are nevertheless classified as "traumatized." Second, it is also likely that a number of subjects in the "untraumatized" group have experienced trauma, but the experimenter never identified their specific trauma.

In order to control for these biases I have devised a trauma questionnaire where subjects not only identify negative life events they have experienced, but also rate how traumatic the events they experienced were for them. In addition, subjects were asked to identify any negative experience they have had that is not on the list and rate how traumatic it was for them. Only subjects who rated an event they experienced as "extremely traumatic" were classified as traumatized.

This method opens the question that there may be certain events that people are more likely to rate as more traumatic or less traumatic. Although people may be more likely to perceive a certain event as extremely traumatic, this does not imply that all people who have experienced that event will feel it was traumatic, or that all people who felt it was traumatic will cope poorly. It is predicted that coping ability, not the type of trauma experienced, will distinguish highly symptomatic victims from victims low in symptomatology. Therefore there should be no differences between T-HI and T-LO in the type of events they have experienced nor their ratings of these events.

Hypotheses

In summary, I plan to test several groups of hypotheses:

1. Traumatized people low in symptomatology (T-LO) will have more positive higher-order beliefs about themselves than the traumatized who are high in symptomatology (T-HI). T-LO should have higher-order assumptions that are as positive as people who have not been traumatized.
2. The untraumatized should have the most positive subselves, T-LO should have somewhat less positive subselves, and T-HI should have the least positive subselves. This should be true for the actual number of

positive subselves, the proportion of positive subselves to the total number of subselves, and mean subself ratings. Similarly, T-HI should have the largest number of negative subselves, T-LO should have fewer negative subselves, and the untraumatized should have the least.

3. There are separate predictions for each type of self-complexity. High positive self-complexity in the traumatized should be significantly related to good constructive thinking and low symptomatology, and unrelated to either in the untraumatized. High overall self-complexity should be associated with poor constructive thinking and high symptomatology in the untraumatized, and unrelated to either in the traumatized. High negative self-complexity should be related to low constructive thinking and high symptomatology in all subjects.

4. Constructive thinking scores of the traumatized and untraumatized should not differ. Within the traumatized group, T-LO will have higher Global Constructive Thinking, Emotional Coping, and Behavioral Coping scores and lower Superstitious Thinking than T-HI.

5. There will be a wide range in how people rate the negative life events they have experienced, yet some events may be considered extremely traumatic more often than others. T-LO and T-HI should not differ in the type of events they have experienced or in how they rated these events. Negative life events experienced should not be

predictive of symptomatology. Only constructive thinking and types of self-complexity should predict symptomatology.

CHAPTER 2

METHOD

Subjects

The subjects were 242 students from the University of Massachusetts at Amherst subject pool. Subjects were tested in groups of 1-13 and received course credit for their participation. There were 59 males and 183 females, and their average age was 19.98 years. Eighty-eight were classified as traumatized, and this group was divided by a median split on Global SCL-90-R scores into a group of 44 subjects high in symptomatology (T-HI) and a group of 44 low in symptomatology (T-LO).

Materials

Adjective checklist

The same list of 80 adjectives was used to assess global (higher-order) self-esteem, self-complexity, and subself (lower-order) characteristics (See Appendix A). Twenty-six of these adjectives were taken from the 33 that Linville (1985, 1987) used in her self-complexity task.[1]

[1] I intended to include all 33 of Linville's adjectives in this list, but I only had access to the 28 she published. Although I contacted her repeatedly she never sent me the last 5. Two of the remaining 28 items were then eliminated because their standard deviation was greater than 1.25.

A pretest showed that subjects rated these items as mildly positive or mildly negative, with little variability between them (average variance = 2.77). Because this study was concerned with how positively or negatively subjects rate themselves, it was vital to include a wide range of positive and negative adjectives on this checklist. The remaining 54 adjectives were taken from a list of adjectives I devised that pretest subjects rated as moderately or extremely positive and moderately or extremely negative. There was significantly more variance between these new items (average variance = 4.30) than the Linville items ($t(114) = -21.06$, $p < .001$).

In order to avoid bias, the adjectives should be equally positive and negative (the mean rating of all of the adjectives should be neutral). Although Linville included both positive and negative adjectives, the mean rating of her adjectives was slightly positive ($M = 3.58$ on a 0 to 6 point scale). This mean was significantly higher than the mean of the new adjectives, which was more neutral ($M = 3.10$, $t(114) = 20.94$, $p < .001$). Items from both lists were only included on the checklist if subjects rated them consistently. Adjectives were eliminated if the standard deviation of their ratings was greater than 1.25. The twenty-six Linville adjectives and the fifty-four new adjectives were then combined and put in alphabetical order on the checklist. Based on the pretest means, each

adjective was assigned a positivity/negativity score that was used in subsequent analyses. Together the eighty adjectives cover a wide range of positive and negative attributes.

Global Self-esteem

Subjects' global (higher-order) self-esteem was assessed with two measures, the Rosenberg Self-esteem Inventory (See Appendix B; alpha reliability for the sample was .8809, mean = 21.79, SD = 5.16), and the mean scores of the adjectives the subjects selected when asked to identify the items on the checklist that pertain to themselves in general (the "overall self rating"). The overall self rating has not been validated as a measure of self-esteem, and to help establish its validity it was correlated with the Rosenberg Self-esteem Inventory (RSI). The strong correlation (r = .627, p <.001) provides evidence of its validity.

Self-complexity

Self-complexity was measured by a task based on Linville's card-sorting procedure. First, subjects listed on a blank piece of paper all of the aspects of themselves (subselves such as roles or identities) that they felt were meaningful. Subjects were then given one copy of the adjective checklist for every subself that they listed, and

labelled the top of each checklist with one of the subselves. On each checklist they checked all of the adjectives that they felt were relevant to that subself. If they thought of any new subselves while completing the task, they added it to their list and completed an adjective checklist for it.

Self-complexity is a combined measure of how many subselves a person feels are self-relevant and how much overlap there is among these subselves. By this study's operationalization, overlap across subselves for someone with only three subselves is determined by the number of adjectives a subject checked in one subself alone, the number of adjectives she checked in two out of three, and the number she checked in all three. In a simple hypothetical example, a subject with three subselves may have checked "strong," trustworthy," and "hard-working" in subself A, "trustworthy" and "loving" in subself B, and "trustworthy," "loving," and "impulsive" in subself C. In this case "strong," "hardworking," and "impulsive" appear in only one subself, "loving" appears in two, and "trustworthy" appears in all three. Therefore there are 2 instances where an adjective is chosen in A alone, 1 where an adjective is chosen in C alone, 1 where the same adjective is checked in B and C, and 1 where the same adjective is checked in A, B, and C. The four numbers corresponding to these combinations: 2, 1, 1, and 1, along with the number of

adjectives the subject never checked (in her case, 75) are what Scott, Osgood & Peterson (1979) label "group combinations" (p. 105). In general, the more overlap there is among subselves, the fewer the group combinations.

The number of group combinations alone is not sufficient to determine how much overlap there is among dimensions, because this number varies with the number of subselves and number of adjectives a particular subject uses. For this reason, statisticians studying information processing have developed a formula that takes these variables into account, the H statistic (Attneave, 1959, p. 47; Scott et al., 1979, p. 105). The H statistic logarithmically transforms these group combinations into a more accurate measure, and was adopted by Linville (1985, 1987) as a measure of self-complexity.

Each subject's overall complexity was determined by identifying the group combinations the subject used, and entering them into the H equation:

$$H = \log_2 n - (\Sigma\, n_i \log_2 n_i)/n$$

Where n = the total number of adjectives the subject could have picked, and n_i = the number for each group combination. So in our example above, her H statistic for overall complexity would be:

$$H = \log_2 80 - (75\log_2 75 + 2\log_2 2 + 1\log_2 1 + 1\log_2 1 + 1\log_2 1)/80$$

A high score indicates high self-complexity: a large number of dimensions and little overlap among them.

Positive and negative self-complexity were assessed in a similar fashion. First, all of the adjectives on the adjective checklist were divided into positive adjectives (those pretested as being neutral to extremely positive) and negative adjectives (those ranging from extremely negative to neutral). Separate complexity statistics were then run across subselves on the positive adjectives alone, and then the negative adjectives alone.

Positive and negative subselves

The adjectives subjects used to describe their subselves were examined to determine subself (lower-order) characteristics. For each subself, the scores of each of the adjectives a subject selected were averaged giving a mean score for each subself. Subselves with means below three are negative, and those with means above three are positive. For each subject, the number of positive selves, the number of negative selves, and the proportion of positive selves to total selves was determined.

Coping Ability

Seven scales from Epstein's (1987) Constructive Thinking Inventory were used to measure coping ability (See Appendix C): Global Constructive Thinking (sample alpha

reliability = .9221, mean = 108.82, SD = 19.15), Emotional Coping (sample alpha reliability = .9234, mean = 68.21, SD = 15.47), Behavioral Coping (sample alpha reliability = .8584, mean = 53.73, SD = 8.79), Esoteric Thinking (sample alpha reliability = .8593, mean = 31.50, SD = 9.60), Categorical Thinking (sample alpha reliability = .7606, mean = 26.30, SD = 6.72), Superstitious Thinking (sample alpha reliability = .7942, mean = 19.53, SD = 5.70), and Naive Optimism (sample alpha reliability = .7497, mean = 29.75, SD = 5.15). Due to a transcribing error, the Global Constructive Thinking scale was missing one item, so the results are based on the remaining items.

Coping and Functioning

Coping is defined by current levels of symptomatology on the Global Severity Index of the Revised Symptom Checklist (SCL-90-R) (See Appendix D; sample alpha reliability = .9661, mean = .697, SD = .467). Traumatized subjects were split into a low symptomatic (T-LO) and highly symptomatic (T-HI) group based on a median split of their Global Severity SCL Scores, and compared across measures. This comparison revealed that low symptomatology was associated with a particular pattern of responses, and high symptomatology with its opposite. Specifically, T-LO was associated with high self-esteem, high Global Constructive Thinking, high Emotional Coping, high Behavioral Coping, and

low Superstitious Thinking. This pattern of responses is labelled "good functioning." The opposite pattern, low self-esteem, low Global Constructive Thinking, low Emotional Coping, low Behavioral Coping, and high Superstitious Thinking is defined as "poor functioning." Some later analyses examine correlates of good and poor functioning in traumatized and untraumatized subjects.

Trauma and Negative Life Events

A large list of negative life events was constructed and subjects indicated which events, if any, they had experienced in their lifetime (See Appendix E). If subjects experienced a particular event, they indicated how often they had experienced it, their age or ages when they experienced it, and rated how traumatic that event was for them on a scale ranging from "not at all traumatic" to "extremely traumatic." If subjects had experienced negative life events that we did not include on our list, they were asked to describe them. Subjects who rated at least one event they'd experienced as extremely traumatic (7 or 8 on an 8 point scale) were considered traumatized.

Demographics

This sheet asked subjects for information such as their sex, age, year in college, marital status, race, parental marital status, and current religion (See Appendix F).

Subjects were largely homogeneous, and the only demographic variable isolated for analyses was sex.

Procedure

Subjects entered the laboratory in small groups and completed all measures in the same order. First, subjects completed the adjective checklist for themselves in general, then they made a list of important subselves and completed adjective checklists for each subself. Subjects then completed, in order, the Rosenberg Self-esteem Inventory, the Constructive Thinking Inventory, the SCL-90-R, the trauma measure, and the demographics sheet. Subjects were then thoroughly debriefed.

CHAPTER 3

RESULTS

Negative Life Events

Two hundred twenty-six (93%) of the subjects had experienced at least one major negative event during their lifetime. The four events subjects were least likely to have experienced were stranger rape (1 subject, or .004%), destruction of home by fire or natural disaster (5 or 2%), a disability resulting from an accident (5 or 2%) and a life-threatening illness (7 or 3%). The four events subjects were most likely to have experienced were death of someone close, other than a parent or sibling (129 subjects or 53%), childhood verbal abuse (90 or 37%), parent or sibling's serious illness (67 or 28%) and the free response negative event (82 or 34%). The most common event mentioned on the free response item was parental divorce (22). Thirty-seven percent of the subjects whose parents were divorced spontaneously mentioned it here. The next most common events listed on the free response item were relationship break-ups (10), parental alcoholism (3) and unwanted pregnancies (3) (See Table 3.1 for a list of the negative life events and how subjects rated them).

Traumatized versus Untraumatized Subjects

Subjects were then divided based on how extremely they rated the events, if any, they had experienced. Eighty-eight rated at least one of the events they experienced as extremely traumatic (7 or 8 on an 8 point scale), and were thus classified as "traumatized."[2] The remaining 154 subjects had either experienced no negative life events or had rated their most extreme event less extremely (1 to 6) than the traumatized group, and were thus classified as "untraumatized." Traumatized subjects were more likely than untraumatized to have experienced the death of someone close, other than a parent or sibling ($X^2(1, N = 242) = 13.25, p < .001$), a serious but not life-threatening illness ($X^2(1, N = 242) = 7.07, p < .01$), parent's or sibling's serious but not life-threatening illness ($X^2(1, N = 242) =$

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[2] Before making the decision to choose the 7 or 8 rating as the criterion for classifying subjects as traumatized, I compared major analyses on the traumatized and untraumatized when the traumatized group consisted of all subjects who rated at least one negative life event a 7 or 8, when the traumatized were all subjects who rated at least one event a 6 or above, and when they were all subjects rating at least one event a 5 or above. None of the major results changed with the new classifications, although some Sex x Trauma interactions appeared in minor variables in the 6 and above classification, then disappeared with the 5 and above. Although the analyses were largely unchanged, many more people were classified as "traumatized" with each lower criterion (140 when the 6 and above criterion was used, 172 with the 5 and above criterion). I chose the 7 or 8 criterion because it was more stringent than the lower ratings, had similar patterns to lower ratings on major analyses, and still yielded a large "traumatized" sample.

4.54, $p < .05$), a disability resulting from an accident ($X^2(1, N = 242) = 6.35$, $p < .01$), childhood physical abuse ($X^2(1, N = 242) = 6.84$, $p < .01$), incest or childhood sexual abuse ($X^2(1, N = 242) = 9.13$, $p < .005$), acquaintance rape ($X^2(1, N = 242) = 21.33$, $p < .001$), and a free response negative event ($X^2(1, N = 242) = 8.09$, $p < .005$) (See Table 3.2). Although the traumatized and untraumatized significantly differed on those eight events, a regression on global SCL score by negative events experienced showed that all of the negative events had an adjusted R^2 of only .005, accounting for less than 1% of the variance in symptomatology, ($F(21, 218) = 1.06$, NS).

The 88 traumatized and 154 untraumatized were compared on self-esteem, symptomatology, coping style, and subself characteristics. The traumatized and untraumatized differed only on symptomatology. The traumatized had higher Global Severity SCL scores than the untraumatized ($M = .832$ and $M = .637$ respectively, $F(1,233) = 6.77$, $p < .01$). There were no differences between the traumatized and untraumatized on the Rosenberg Self-esteem Inventory, the overall self rating, Global Constructive Thinking, Emotional Coping, Behavioral Coping, Categorical Thinking, Superstitious Thinking, Naive Optimism, and Esoteric Thinking, the number of subselves they listed, the mean rating of the subselves, the variance among these subself means, the highest subself mean, the lowest subself mean, the range between the highest

and lowest subself means, overall self-complexity, positive self-complexity, negative self-complexity, number of positive subselves, number of negative subselves, or the proportion of positive subselves to total number of subselves.

Sex Differences

For the whole sample, there were only two sex differences on these measures. Women had higher Global Severity SCL scores (M = .751) than men (M = .576, $F(1,233)$ = 3.98, p <.05) and lower Global Constructive Thinking scores (M = 106.75 and M = 115.89 respectively; $F(1,233)$ = 8.63, p <.01). There were no sex differences in overall self ratings, RSI, the remaining Constructive Thinking subscales, the number of subselves listed, the mean rating of the subselves, the variance among these subself means, the highest subself mean, the lowest subself mean, the range between the highest and lowest subself means, overall self-complexity, positive self-complexity, negative self-complexity, number of positive subselves, number of negative subselves, or the proportion of positive subselves to total number of subselves. There were no sex by trauma group interactions for any variables.

High Symptomatology versus Low Symptomatology Traumatized

The traumatized sample was then further divided into two groups of 44 by a median split on Global Severity SCL scores (median = .70), yielding a subsample with low symptomatology (T-LO) and a subsample with high symptomatology (T-HI). Analyses on negative events experienced indicated that T-LO and T-HI differed only in the number who reported having experienced a serious but not life-threatening illness ($X^2(1, N = 88) = 4.91, p < .05$) with T-HI more likely to have been seriously ill. There was no difference in their ratings of the events they experienced except for ratings of their serious but not life-threatening illness which T-HI were more likely to rate as extremely traumatic ($X^2(1, N = 88) = 3.39, p < .05$) (See Table 3.3). Although the frequency and rating of this event was significantly different for T-LO and T-HI, the presence of a serious illness did not account for differences between the groups in subsequent analyses. All major analyses were repeated after deleting subjects who had experienced a serious illness and the significance and trends of these analyses were unchanged.

Although there are few differences between the traumatized and the untraumatized on self-esteem, coping ability, self-complexity and subself characteristics, there were many between T-LO and T-HI (See Table 3.4 for means).

T-LO scored significantly higher than T-HI on the RSI ($F(1,83) = 22.02$, $p < .001$), the overall self rating ($F(1,83) = 13.26$, $p < .001$), and on Global Constructive Thinking ($F(1,82) = 28.05$, $p < .001$). A Manova on the remaining Constructive Thinking subscales was significant ($F(6,76) = 3.52$, $p < .005$), with T-LO scoring significantly higher than T-HI on Emotional Coping ($F(1,81) = 15.78$, $p < .001$), and Behavioral Coping ($F(1,81) = 7.45$, $p < .01$), and T-LO scoring significantly lower than T-HI on Superstitious Thinking ($F(1,82) = 26.89$, $p < .001$).

There were no differences between T-LO and T-HI in the number of subselves listed, the average number of adjectives used in each subself, or in the range of the subself means. A Manova on the mean ratings of the subselves, the variance in these ratings, and the highest and lowest subself ratings was not significant. T-HI and T-LO did not differ in overall self-complexity or in negative self-complexity, but T-LO were more positively complex than T-HI ($F(1,84) = 3.82$, $p < .05$). T-LO also had more positive subselves than T-HI ($F(1.84) = 4.16$, $p < .05$), fewer negative subselves ($F(1,84) = 6.24$, $p < .05$), and a higher proportion of positive subselves to total number of selves ($F(1,84) = 9.87$, $p < .005$). There were no main effects for sex or any sex by group interactions on any of these variables.

T-LO and T-HI versus the Untraumatized

Contrasts were then performed comparing T-LO, T-HI, and the untraumatized (see Table 3.5 for means). T-LO and the untraumatized did not differ from each other, but scored significantly higher than T-HI on the RSI ($F(2,239) = 11.28$, $p < .001$), the overall self ratings ($F(2,239) = 9.44$, $p < .001$), Emotional Coping ($F(2,235) = 11.01$, $p < .001$), mean subself ratings ($F(2,239) = 5.33$, $p < .01$), and the proportions of positive selves ($F(2,239) = 5.89$, $p < .005$). T-LO and the untraumatized did not differ from each other, but scored significantly lower than T-HI on Esoteric Thinking ($F(2,235) = 5.02$, $p < .01$).

On Global Constructive Thinking, T-LO scored significantly higher than the untraumatized, and both groups scored higher than T-HI ($F(2,235) = 14.63$, $p < .001$). Behavioral Coping had the same pattern ($F(2,237) = 10.03$, $p < .001$). On Superstitious Thinking, T-LO scored significantly lower than the untraumatized, and both groups scored lower than T-HI ($F(2,237) = 13.45$, $p < .001$). The Global Severity Index of the SCL-90-R had the same pattern ($M = .43$, $M = .64$, and $M = 1.24$ respectively, $F(2,239) = 52.60$, $p < .001$).

T-LO had significantly higher positive self-complexity than the untraumatized and T-HI, although the untraumatized and T-HI were not different from each other ($F(2,239) =$

3.11, $p < .05$). T-LO had significantly less variance in subself means ($M = .48$) than the untraumatized ($M = .75$) and T-HI ($M = .85$), although the untraumatized and T-HI were not different from each other ($F(2,238) = 3.34$, $p < .05$). T-LO used a greater number of adjectives in their subselves than the untraumatized, although neither group was significantly different from T-HI ($F(2,239) = 4.13$, $p < .05$). T-LO had a smaller number of negative subselves than T-HI, although neither group was significantly different from the untraumatized ($F(2,239) = 2.99$, $p < .05$). There were no differences between the three groups in Categorical Thinking, Naive Optimism, overall self-complexity, negative self-complexity, number of subselves, number of positive subselves, highest subself, lowest subself, or the range in subself means.

Effects of Trauma versus Symptomatology

In Table 3.5, T-LO were separated from T-HI by their SCL scores, and both groups were separated from the untraumatized by their trauma ratings. When T-LO or T-HI differ from the untraumatized we cannot tell whether this difference is the effect of trauma, symptomatology, or an interaction. For this reason I conducted 2 x 2 ANOVAS examining the effects of trauma (traumatized vs. untraumatized) and symptomatology (high vs. low) for each

variable. All subjects were divided into high and low symptom groups by the SCL median of the traumatized group (median = .70), but divisions based on the sample SCL median, .59, yielded the same trends with one exception.[3]

The ANOVAS revealed main effects for symptomatology, with those low in symptomatology having higher scores on the Rosenberg Self-esteem inventory, the overall self rating, Global Constructive Thinking, Emotional Coping, mean subself rating, proportion of positive subselves, and lowest subself rating, and those low in symptomatology having lower scores on Superstitious Thinking, Esoteric Thinking, negative self-complexity, number of negative subselves, subself variance, and range in subself ratings (see Table 3.6 for means and F values). There were no trauma main effects or trauma x symptomatology interactions on these thirteen variables.

On Behavioral Coping there were main effects for trauma ($\underline{F}(1,236) = 4.90$, $\underline{p} < .05$) and for symptom ($\underline{F}(1,236) = 36.57$, $\underline{p} < .001$) but no trauma x symptom interaction. Traumatized subjects had higher Behavioral Coping scores than the untraumatized ($\underline{M} = 54.41$ and $\underline{M} = 53.31$ respectively), and people with higher symptomatology had lower Behavior Coping scores than those with low symptomatology ($\underline{M} = 49.75$ and $\underline{M}$

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[3] Analyses using the two different medians differed on Categorical Thinking. There was a significant main effect for symptom using the sample's median ($\underline{F}(1,237) = 11.32$, $\underline{p} < .001$). People high in symptomatology had higher Categorical Thinking scores ($\underline{M} = 27.81$) than those low in symptomatology ($\underline{M} = 24.89$). This effect disappeared when the median of the traumatized was used ($\underline{F}(1,236) = 3.52$, NS).

= 56.06 respectively). There was a main effect for symptomatology on overall self-complexity ($F(1,238) = 7.10$, $p < .01$; low symptom mean = 2.98, high symptom mean = 3.40) yet there was also a significant trauma x symptom interaction ($F(1,238) = 9.72$, $p < .005$). Contrasts revealed that untraumatized low symptomatology subjects had significantly lower overall self-complexity ($M = 2.82$) than the other three groups ($M = 3.37$ for T-LO, $M = 3.22$ for T-HI, and $M = 3.59$ for the untraumatized high symptomatology). There was no trauma main effect on overall self-complexity.

There were no symptom or trauma main effects for positive self-complexity, yet there was a significant trauma x symptom interaction ($F(1,238) = 10.68$, $p < .001$). Untraumatized low symptomatology subjects had significantly lower positive self-complexity ($M = 3.28$) than untraumatized subjects with high symptomatology ($M = 3.79$) and T-LO ($M = 3.86$). T-HI was not significantly different from the other groups ($M = 3.41$). There were no main effects or interactions on the number of subselves, the number of positive subselves, the highest subself rating, Categorical Thinking, or Naive Optimism.

Self-complexity and Functioning

Several analyses were performed comparing how the three types of self-complexity relate to good functioning (low

symptomatology, high self-esteem, high Global Constructive Thinking, high Emotional Coping, high Behavioral Coping, and low Superstitious Thinking) and poor functioning (its opposite) in the 88 subjects who had been traumatized and the 154 who had not (See Table 3.7). Separate analyses were performed for males and females and no sex differences were found in these trends. Overall self-complexity, which consists of both positive and negative self-complexity, is unrelated to functioning in the traumatized. Correlations between overall self-complexity and symptomatology, the RSI, overall self ratings, Global Constructive Thinking, Emotional Coping, Behavioral Coping, and Superstitious Thinking were all nonsignificant. In contrast, high overall self-complexity was related to poor functioning in the untraumatized. In the untraumatized, high overall self-complexity was associated with higher levels of symptomatology, lower overall self-ratings, lower Global Constructive Thinking, lower Emotional Coping, lower Behavioral Coping and higher Superstitious Thinking. The RSI was nonsignificant.

Six of the measures of functioning had different relationships to overall self-complexity in the traumatized and untraumatized. T-tests comparing the correlations between overall self-complexity and the measures of functioning for the traumatized and untraumatized showed significant differences for symptomatology, the RSI, Global

Constructive Thinking, Emotional Coping, Behavioral Coping, and Superstitious Thinking. Overall self rating was not significant.

High positive self-complexity was associated with good functioning in the traumatized and largely unrelated to functioning in the untraumatized. For traumatized subjects, higher positive self-complexity was associated with lower symptomatology, higher RSI, higher overall self ratings, higher Global Constructive Thinking, higher Emotional Coping, higher Behavioral Coping, and lower Superstitious Thinking. In the untraumatized, high positive self-complexity was associated with higher levels of symptomatology and unrelated to the RSI, overall self ratings, Global Constructive Thinking, Emotional Coping, Behavioral Coping, or Superstitious Thinking. T-tests comparing the correlations between positive self-complexity and functioning for the traumatized and untraumatized showed that the two groups were significantly different on all of the measures.

The relationship between negative self-complexity and functioning was similar for the traumatized and untraumatized. In both cases, high negative self-complexity was associated with poorer functioning. For both the traumatized and untraumatized, high negative self-complexity was associated with higher symptomatology, lower RSI, lower overall self ratings, lower Global Constructive Thinking,

and lower Emotional Coping. Negative self-complexity was unrelated to Behavioral Coping and Superstitious Thinking in the traumatized, while high negative self-complexity was associated with low Behavioral Coping and high Superstitious Thinking in the untraumatized. Although the relationship between high negative self-complexity and poor functioning was similar for the traumatized and untraumatized, this relationship was somewhat stronger for the untraumatized. Three measures of functioning were more highly correlated with negative self-complexity in the untraumatized than in the traumatized: the RSI, Global Constructive Thinking, and Behavioral Coping.

Regressions were then performed to see how much of the variance in symptomatology (Global Severity SCL scores) was accounted for by the self-complexity measures and Global Constructive Thinking for the traumatized and untraumatized (See Table 3.8). For the traumatized subjects, Global Constructive Thinking accounted for 39% of the variance in symptomatology, overall self-complexity accounted for none of the variance, positive self-complexity accounted for 10%, negative self-complexity accounted for 6%, and positive and negative self-complexity together accounted for 24% of the variance. When Global Constructive Thinking was added to the complexity regressions, predictability increased. Even the predictability of the combined positive and negative

self-complexity equation increased by 18% when the Global CTI was included.

For the untraumatized, Global Constructive Thinking accounted for 32% of the variance in symptomatology, overall self-complexity accounted for 9% of the variance, positive self-complexity accounted for 3%, negative self-complexity accounted for 14%, and positive and negative self-complexity together accounted for 13%. Adding the Global CTI to these equations increased the predictability by 19% to 33%.

Positive Subselves, Negative Subselves and Functioning

The number of positive subselves, the number of negative subselves, and the proportion of positive subselves to total number of subselves were then examined to see how they related to functioning for the traumatized and untraumatized (See Table 3.9). Separate analyses for males and females revealed only one sex difference: the number of positive subselves was more highly correlated with the overall self rating in traumatized females ($r = .685$, $p < .001$) than in traumatized males ($r = .042$, NS; $t(86) = 2.25$, $p < .05$). Because there was only one sex difference, males and females were combined for all analyses in Table 3.9. A higher number of positive subselves was associated with better functioning in the traumatized, but was unrelated to functioning in the untraumatized. In the

traumatized, a larger number of positive subselves was associated with less symptomatology, higher RSI, higher Global Constructive Thinking, higher Emotional Coping, higher Behavioral Coping, and lower Superstitious Thinking, but was unrelated to overall self rating. In the untraumatized, none of these variables significantly correlated with the number of positive subselves. T-tests comparing the relationship between the number of positive subselves and functioning showed that Behavioral Coping had a stronger relationship with the number of positive subselves in the traumatized than the untraumatized, but there were no differences between the two groups on the other measures.

For all subjects, a higher number of negative subselves was associated with poorer functioning. A larger number of negative subselves is associated with greater symptomatology, lower RSI, lower overall self-ratings, lower Global Constructive Thinking, lower Emotional Coping, lower Behavioral Coping, and higher Superstitious Thinking. The strength of the relationship between the number of negative subselves and functioning did not differ for the traumatized and untraumatized on any of the measures.

For all subjects, higher proportions of positive subselves is associated with greater functioning on all measures. Analyses comparing the strength of the correlations between the proportion of positive subselves

and functioning only showed differences between the traumatized and untraumatized on two measures. Higher proportions of positive subselves were more strongly associated with less symptomatology and better overall self ratings in the traumatized than the untraumatized.

Regressions were performed to see how much of the variance in symptomatology (Global Severity SCL scores) was accounted for by the number of positive and negative subselves, the proportion of positive subselves and Global Constructive Thinking for the traumatized and untraumatized (See Table 3.10). As mentioned earlier, for the traumatized subjects, Global Constructive Thinking accounted for 39% of the variance in symptomatology. For the traumatized, the number of negative and positive subselves entered together accounted for 22% of the variance in symptomatology, and the proportion of positive subselves accounted for 23% of the variance. When the Global CTI was added to the regressions, predictability increased by 20%. In the untraumatized, these subself characteristics did not account for nearly as much variance in symptomatology. The number of positive and negative subselves entered together, and the proportion of positive subselves each accounted for only 4% of the variance. The Global CTI, when added to the regressions, accounted for another 28% of the variance.

Table 3.1

Frequency of ratings of each negative life event for the whole sample (N=242)

Type of event	Did not occur	Rating 1-6	Rating 7-8
Death of a parent	228	6	8
Death of a sibling	234	8	0
Death of another close person	113	99	30
Your life-threatening illness	235	6	1
Parent or sibling's life-threatening illness	198	32	12
Your serious illness	203	34	5
Parent or sibling's serious illness	175	63	4
Your non-accident related disability	232	7	3
Immediate family member's non-accident related disability	217	22	3
Your disability resulting from an accident	237	3	2
Immediate family member's disability resulting from an accident	229	11	2
Destruction of home by fire/disaster	237	5	0
Childhood verbal abuse	152	77	13
Childhood physical abuse	206	28	8
Incest/childhood sexual abuse	222	15	5
Stranger rape	241	0	1
Acquaintance rape	219	14	9
Sexual assault (not rape)	209	28	5
Physical assault by a stranger	207	31	4
Physical assault by an acquaintance	211	29	2
Free response	160	51	31

Table 3.2

Percent of traumatized and untraumatized reporting having experienced each negative life event

Type of event	Traumatized N=88	Untraumatized N=154	p
Death of a parent	9%	4%	NS
Death of a sibling	3%	3%	NS
Death of another close person	69%	44%	p <.001
Your life-threatening illness	5%	2%	NS
Parent or sibling's life-threatening illness	25%	14%	NS
Your serious illness	25%	11%	p <.01
Parent or sibling's serious illness	36%	23%	p <.05
Your non-accident related disability	8%	3%	NS
Immediate family member's non-accident disability	10%	10%	NS
Your disability resulting from an accident	6%	0%	p <.01
Immediate family member's accident disability	8%	4%	NS
Destruction of home by fire or disaster	5%	1%	NS
Childhood verbal abuse	44%	33%	NS
Childhood physical abuse	24%	10%	p <.01
Incest/childhood sexual abuse	16%	4%	p <.005
Stranger rape	1%	0%	NS
Acquaintance rape	22%	3%	p <.001
Sexual assault (not rape)	18%	11%	NS
Physical assault by a stranger	20%	11%	NS
Physical assault by an acquaintance	18%	10%	NS
Free response	45%	27%	p <.005

Table 3.3

Frequency of ratings of each negative life event for traumatized subjects low in symptomatology (T-LO) and traumatized subjects high in symptomatology (T-HI)

Type of event	T-LO Did not occur	T-LO 1-6	T-LO 7-8	T-HI Did not occur	T-HI 1-6	T-HI 7-8	
Death of a parent	42	0	2	38	0	6	
Death of a sibling	43	1	0	42	0	2	
Death of another close person	11	14	19	16	17	11	
Your life-threatening illness	42	2	0	42	1	1	
Parent or sibling's life-threatening illness	31	7	6	35	3	6	
Your serious illness	38	6	0	28	11	5	**
Parent or sibling's serious illness	28	14	2	28	14	2	
Your non-accident related disability	42	1	1	40	2	2	
Immediate family member's non-accident disability	40	2	2	39	4	1	
Your disability resulting from an accident	42	2	0	41	1	2	
Immediate family member's accident disability	39	3	2	42	2	0	
Destruction of home by fire or disaster	42	2	0	42	2	0	
Childhood verbal abuse	27	12	5	22	14	8	
Childhood physical abuse	33	6	5	34	7	3	
Incest/childhood sexual abuse	36	5	3	38	4	2	
Stranger rape	43	0	1	44	0	0	
Acquaintance rape	35	6	3	34	4	6	
Sexual assault (not rape)	34	7	3	38	4	2	
Physical assault by a stranger	36	7	1	34	7	3	
Physical assault by an acquaintance	36	7	1	36	7	1	
Free response	23	4	17	25	5	14	

** T-LO and T-HI are significantly different at $p < .05$

Table 3.4

Means for T-LO and T-HI on self-esteem, constructive thinking, self-complexity, and subself characteristics

Measure	T-LO N=44	T-HI N=44	p
General Self-Esteem			
Self-esteem (RSI)	23.61	18.82	$p < .001$
Overall self rating	4.39	4.10	$p < .001$
Constructive Thinking			
Global constructive thinking	116.81	96.40	$p < .001$
Emotional coping	70.80	58.60	$p < .001$
Superstitious thinking	16.45	22.45	$p < .001$
Behavioral coping	58.36	50.45	$p < .01$
Esoteric thinking	28.89	35.14	NS
Categorical thinking	25.50	27.59	NS
Naive optimism	30.65	30.61	NS
Self-Complexity			
Overall self-complexity	3.37	3.22	NS
Positive self-complexity	3.86	3.41	$p < .05$
Negative self-complexity	1.31	1.66	NS
Subself Characteristics			
Mean subself ratings	4.39	4.03	NS
Number of adjectives per self	19.50	18.79	NS
Number of selves	7.43	6.86	NS
Number of negative selves	.64	1.36	$p < .05$
Number of positive selves	6.80	5.50	$p < .05$
Proportion of positive selves	.92	.80	$p < .005$

Table 3.5

Means for T-LO, T-HI and the untraumatized on self-esteem, constructive thinking, self-complexity, and subself characteristics

Measure	T-LO N=44	T-HI N=44	Untraumatized N=154
General Self-Esteem			
Self-Esteem (RSI)	23.61_a	18.82_b	22.11_a
Overall self rating	4.39_a	4.10_b	4.34_a
Constructive Thinking			
Global constructive thinking	116.81_a	96.40_b	110.07_c
Emotional coping	70.80_a	58.60_b	70.20_a
Superstitious thinking	16.45_a	22.45_b	19.56_c
Behavioral coping	58.36_a	50.45_b	53.34_c
Esoteric thinking	28.89_a	35.14_b	31.20_a
Categorical thinking	25.50	27.59	26.15
Naive optimism	30.65	30.61	29.24
Self-Complexity			
Overall self-complexity	3.37	3.22	3.05
Positive self-complexity	3.86_a	3.41_b	3.42_b
Negative self-complexity	1.31	1.66	1.34
Subself Characteristics			
Mean subself ratings	4.39_a	4.03_b	4.22_a
Number of adjectives per self	19.50_a	18.79_{ab}	16.19_b
Number of selves	7.43	6.86	6.94
Number of negative selves	$.64_a$	1.36_b	1.00_{ab}
Number of positive selves	6.80	5.50	5.94
Proportion of positive selves	$.92_a$	$.80_b$	$.87_a$

Means that do not share common subscripts differ at $p < .05$

Table 3.6

ANOVAS for variables with significant main effects for symptomatology, but no trauma main effects or trauma x symptomatology interactions

Independent variable	Low symptom mean	High symptom mean	df	F
General Self-Esteem				
Self-esteem (RSI)	23.49	18.87	1/238	52.48 ***
Overall self rating	4.40	4.14	1/238	29.19 ***
Constructive Thinking				
Global Constructive thinking	116.09	96.63	1/234	70.61 ***
Emotional coping	73.54	59.33	1/234	50.42 ***
Superstitious thinking	17.51	22.70	1/236	59.46 ***
Esoteric thinking	30.00	33.75	1/234	8.14 ***
Self-Complexity				
Negative self-complexity	1.15	1.79	1/238	19.33 ***
Subself Characteristics				
Mean subself rating	4.33	4.03	1/238	20.21 ***
Number of negative selves	.78	1.35	1/238	9.98 ***
Proportion of positive subselves	.90	.81	1/238	15.00 ***
Subself variance	.62	.90	1/237	9.97 ***
Lowest subself rating	3.28	2.75	1/238	14.40 ***
Range of the subself ratings	1.63	2.10	1/238	11.48 ***

*** All ANOVAS are significant at $p < .005$

Table 3.7

Correlations between the complexity measures, symptomatology, self-esteem and constructive thinking for the traumatized and untraumatized

Overall Self-Complexity

Measure	Traumatized N=88	Untraumatized N=154	t value (df=241) (Fisher's r to Z)
Symptomatology (SCL)	-.106	.308 ***	-3.13 ***
Self-esteem (RSI)	.132	-.152	2.11 *
Overall self rating	-.032	-.217 **	1.38
Global constructive thinking	.149	-.228 ***	2.81 **
Emotional coping	.132	-.243 ***	2.80 **
Behavioral coping	.195	-.185 *	2.82 **
Superstitious thinking	-.124	.193 *	-2.35 *

Positive self-complexity

Measure	Traumatized N=88	Untraumatized N=154	t value (df=241) (Fisher's r to Z)
Symptomatology (SCL)	-.334 ***	.193 *	-4.01 ***
Self-esteem (RSI)	.323 ***	.057	2.04 *
Overall self rating	.278 **	-.005	2.14 *
Global constructive thinking	.362 ***	-.020	2.95 **
Emotional coping	.320 ***	-.073	2.98 **
Behavioral coping	.384 ***	-.018	3.12 ***
Superstitious thinking	-.261 *	.041	-2.26 *

Negative Self-Complexity

Measure	Traumatized N=88	Untraumatized N=154	t value (df=241) (Fisher's r to Z)
Symptomatology (SCL)	.256 *	.373 ***	-.95
Self-esteem (RSI)	-.220 *	-.455 ***	1.96 *
Overall self rating	-.485 ***	-.493 ***	.08
Global constructive thinking	-.247 *	-.487 ***	2.06 *
Emotional coping	-.222 *	-.427 ***	1.69
Behavioral coping	-.176	-.418 ***	1.97 *
Superstitious thinking	.157	.355 ***	-1.57

* p <.05
** p <.01
*** p <.005

Table 3.8

Regression analyses predicting symptomatology (Global Severity SCL) from self-complexity, Global Constructive Thinking (CTI), and their interaction for traumatized and untraumatized

TRAUMATIZED

Independent variable	Adjusted R^2	df	F
Global Constructive Thinking	.39	1/84	54.53 ***
Overall self-complexity	.00	1/84	.90
Overall self-complexity + CTI	.38	2/83	26.95 ***
Positive self-complexity	.10	1/84	10.66 ***
Positive self-complexity + CTI	.39	2/83	28.50 ***
Negative self-complexity	.06	1/84	6.14 *
Negative self-complexity + CTI	.39	2/83	28.31 ***
Positive self-complexity + Negative self-complexity	.24	2/83	14.56 ***
Positive self-complexity + Negative self-complexity + CTI	.42	3/82	21.41 ***

UNTRAUMATIZED

Independent variable	Adjusted R^2	df	F
Global Constructive Thinking	.32	1/150	73.00 ***
Overall self-complexity	.09	1/150	16.85 ***
Overall self-complexity + CTI	.36	2/149	42.71 ***
Positive self-complexity	.03	1/150	6.36 *
Positive self-complexity + CTI	.36	2/149	42.57 ***
Negative self-complexity	.14	1/150	25.54 ***
Negative self-complexity + CTI	.33	2/149	38.60 ***
Positive self-complexity + Negative self-complexity	.13	2/149	12.76 ***
Positive self-complexity + Negative self-complexity + CTI	.35	3/148	28.25 ***

* $p < .05$, ** $p < .01$, *** $p < .005$

Table 3.9

Correlations between the proportion of positive subselves, the number of positive and negative subselves, symptomatology, self-esteem and constructive thinking for the traumatized and untraumatized

Number of Positive Subselves

Measure	Traumatized N=88	Untraumatized N=154	t value (df=241) (Fisher's r to Z)
Symptomatology (RSI)	-.243 *	-.030	-1.60
Self-esteem (SCL)	.257 *	.137	.93
Overall self rating	.174	.103	.54
Global constructive thinking	.358 ***	.120	1.87
Emotional coping	.308 ***	.102	1.59
Behavioral coping	.355 ***	.075	2.18 *
Superstitious thinking	-.267 *	-.055	-1.63

Number of Negative Subselves

Measure	Traumatized N=88	Untraumatized N=154	t value (df=241) (Fisher's r to Z)
Symptomatology (SCL)	.420 ***	.209 **	1.75
Self-esteem (RSI)	-.407 ***	-.262 ***	-1.20
Overall self rating	-.515 ***	-.302 ***	-1.89
Global constructive thinking	-.361 ***	-.336 ***	-.20
Emotional coping	-.341 ***	-.338 ***	-.02
Behavioral coping	-.291 **	-.245 ***	-.37
Superstitious thinking	.297 ***	.246 ***	.40

Proportion of Positive Subselves[1]

Measure	Traumatized N=88	Untraumatized N=154	t value (df=241) (Fisher's r to Z)
Symptomatology (SCL)	-.483 ***	-.210 **	-2.31 *
Self-esteem (RSI)	.497 ***	.342 ***	1.39
Overall self rating	.603 ***	.340 ***	2.53 *
Global constructive thinking	.473 ***	.358 ***	1.02
Emotional coping	.424 ***	.364 ***	.53
Behavioral coping	.444 ***	.239 ***	1.73
Superstitious thinking	-.391 ***	-.255 ***	-1.12

* $p < .05$
** $p < .01$
*** $p < .005$

[1] Analyses on the proportion of negative subselves are not included because they yield the same results with opposite signs.

Table 3.10

Regression analyses predicting Global Severity SCL from proportion of positive subselves, number of negative and positive subselves, Global Constructive Thinking (CTI),and their interaction for traumatized and untraumatized

TRAUMATIZED

Independent variable	Adjusted R^2	df	F
Global Constructive Thinking	.39	1/84	54.53 ***
Proportion of positive subselves	.23	1/84	26.68 ***
Proportion of positive subselves + CTI	.43	2/83	32.90 ***
Number of negative subselves + number of positive subselves	.22	2/83	12.72 ***
Number of negative subselves + number of positive subselves + CTI	.42	3/82	21.61 ***

UNTRAUMATIZED

Independent variable	Adjusted R^2	df	F
Global Constructive Thinking	.32	1/150	73.00 ***
Proportion of positive subselves	.04	1/150	7.16 **
Proportion of positive subselves + CTI	.32	2/149	36.27 ***
Number of negative subselves + number of positive subselves	.04	2/149	3.95 *
Number of negative subselves + number of positive subselves + CTI	.32	3/148	24.20 ***

* $p < .05$
** $p < .01$
*** $p < .005$

CHAPTER 4

DISCUSSION

Higher- versus Lower-order Assumptions

All hypotheses were fully or partially supported. The first hypothesis, that T-LO and the untraumatized will have equally positive higher-order assumptions, and that both would have more positive higher-order assumptions than T-HI, was fully supported. T-LO and the untraumatized both had higher Rosenberg Self-esteem Inventory scores, and higher overall self-ratings than T-HI. The second hypothesis, that the untraumatized will have the most positive lower-order assumptions, T-LO will have less positive lower-order assumptions, and T-HI will have the least positive assumptions was only partially supported. On all measures of lower-order assumptions, T-LO scored just as positively or more positively than the untraumatized, and both groups frequently scored better than T-HI.

T-LO and the untraumatized had a higher proportion of positive subselves than T-HI, yet there were no differences between the three groups in the number of positive subselves. T-LO had fewer negative subselves than T-HI, but neither group differed from the untraumatized. T-LO and the untraumatized had higher mean subself ratings than T-HI, and T-LO had less variability in their mean subself ratings than

T-HI or the untraumatized (probably a function of T-LO having fewer negative subselves).

We predicted that traumatic events should have made an impact on T-LO's lower-order assumptions to some extent, and should have made a larger impact on the lower-order assumptions of T-HI. Although T-LO had fewer negative subselves, the mean rating of their lowest subself did not differ from the mean rating of T-HI's lowest subself. Thus, it is possible that the negative impact of the trauma was confined to the lowest subself in T-LO. However, because the good copers' lowest subself was not significantly lower than the lowest subself of the untraumatized, this finding is ambiguous. It is also possible that T-LO would be less negatively self-complex than T-HI because T-LO would have fewer negative dimensions, but this was not the case. T-LO, T-HI, and the untraumatized did not differ in negative self-complexity.

Self-complexity Hypotheses

All self-complexity hypotheses were supported. High positive self-complexity was related to good functioning (low physical and psychological symptoms, high self-esteem, and good coping style) in the traumatized, and was unrelated to functioning in the untraumatized. T-LO were also more positively self-complex than T-HI and the untraumatized.

High overall self-complexity was related to worse functioning (high physical and psychological symptoms, low self-esteem, and poor coping ability) in the untraumatized, yet was unrelated to functioning in the traumatized. High negative self-complexity was related to poor functioning in all subjects, but this relationship was somewhat stronger for the untraumatized.

Positive and negative self-complexity accounted for a larger percentage of the variance in symptomatology for the traumatized (24%) than the untraumatized (13%). Yet simple measures of the number of positive and negative subselves and the proportion of positive subselves accounted for the same percentage of the variance (22% and 23%) in the traumatized as positive and negative self-complexity (24%). The number of positive and negative subselves and the proportion of positive subselves accounted for less of the variance in the untraumatized (4%) than did positive and negative self-complexity (13%). So the simple proportion of positive subselves and number of negative and positive subselves may be just as predictive of symptoms in the traumatized as measures of self-complexity. Interestingly, these simple measures do not interact with trauma the way positive self-complexity does. For all subjects, a higher proportion of positive subselves is associated with better functioning, and a larger number of negative subselves is associated with poorer functioning. While the number of

positive subselves is related to better functioning in the traumatized and not the untraumatized, the differences between these two groups is largely nonsignificant. Positive self-complexity has a much stronger interaction with trauma.

Constructive Thinking and Trauma

The hypothesis that Constructive Thinking scores of the traumatized and untraumatized should not differ was supported. Traumatized and untraumatized subjects did not differ on any of the scales. The hypothesis that T-LO would have higher Global Constructive Thinking, Emotional Coping, and Behavioral Coping scores and lower Superstitious Thinking than T-HI was also supported. All measures were significantly different.

Ratings and Types of Negative Events Experienced

It was predicted that there would be a wide range in how people rated the negative life events they experienced. None of the negative events were exclusively rated extremely traumatic, except for stranger rape, but this finding was based on the report of only one subject. Two events, death of a sibling and the destruction of home by fire or natural disaster, were never rated extremely traumatic. Subjects

were variable in their ratings of the rest of the events. The hypothesis that T-LO and T-HI should have experienced the same type and number of negative life events was largely supported. Subjects did not differ on any of the negative events except for a serious illness, which T-HI were more likely to have experienced. Similarly, T-LO and T-HI did not differ on their ratings of any of the events they experienced except for a serious illness. T-HI rated a serious illness as more traumatic. The hypothesis that negative life events experienced should not be predictive of symptomatology was completely supported. All of the negative events together accounted for less than 1% of the variance in symptomatology. Even when all of the subjects who had experienced a serious illness were removed, none of the coping results changed, indicating that this variable was not accounting for the differences between T-LO and T-HI. Constructive thinking, self-esteem, and types of self-complexity were the only variables found to be predictive of symptomatology.

APPENDIX A

ADJECTIVES SELECTED FOR THE ADJECTIVE CHECKLIST

Linville adjectives (N = 26, M = 3.58)

Studious	Not studious	Conformist	Rebellious
Outgoing	Reserved	Sophisticated	Insecure
Playful	Reflective	Quiet	Humorous
Mature	Emotional	Impulsive	Lazy
Assertive	Industrious	Irresponsible	Imaginative
Competitive	Relaxed	Organized	Unorganized
	Affectionate	Soft-hearted	

Average variance in ratings across adjectives = 2.77

New extreme adjectives (N = 54, M = 3.10)

Accepted	Caring	Closed-minded	Cooperative
Decisive	Dishonest	Guilty	Hard-working
Honest	Indecisive	Intelligent	Isolated
Loving	Nervous	Open-minded	Powerful
Proud	Stigmatized	Uncaring	Unintelligent
Unloving	Admirable	Weak	Untrustworthy
Ashamed	Calm	Cautious	Confident
Competent	Connected	Cruel	Determined
Gullible	Helpless	Immoral	Incompetent
Kind	Lovable	Lucky	Not Confident
Moral	Reckless	Powerless	Not Trusting
Satisfied	Strong	Submissive	Trustworthy
Unlovable	Unlucky	Unsatisfied	Valuable
	Wise	Worthless	

Average variance in ratings across adjectives = 4.30

APPENDIX B

ROSENBERG'S SELF-ESTEEM INVENTORY (RSI)

Please rate the accuracy of the following statements using this four point scale:

Strongly agree	Agree	Disagree	Strongly disagree
1	2	3	4

ITEMS

1. I feel that I'm a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all, I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole, I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times I think I am no good at all.

APPENDIX C

CONSTRUCTIVE THINKING INVENTORY (CTI)

Following are some statements about feelings, beliefs, and behaviors. Score "1" if the statement is definitely false, "2" if it is mainly false, "4" if it is mainly true, and "5" if it is definitely true. Use "3" only if you cannot decide if the item is mainly true or false.

The Scale:

Definitely False	Mostly False	Undecided or Neither False nor True	Mostly True	Definitely True
1	2	3	4	5

Global Constructive Thinking:

1. I sometimes think that if I want something to happen too badly, it will keep it from happening.

2. When I have a lot of work to do by a deadline, I waste a lot of time worrying about it instead of just doing it.

3. When something good happens to me, I believe it is likely to be balanced by something bad.

4. I tend to classify people as either for me or against me.

5. When doing unpleasant chores, I make the best of it by thinking pleasant or interesting thoughts.

6. If something good happens to me, I tend to assume it was luck.

7. I look at challenges not as something to fear, but as an opportunity to test myself and learn.

8. I've learned not to hope too hard, because what I hope for usually doesn't happen.

9. When faced with a large amount of work to complete, I tell myself I can never get it done, and feel like giving up.

10. When something bad happens to me, I feel that more bad things are likely to follow.

11. The slightest indication of disapproval gets me upset.

12. It is so distressing for me to try hard and fail, that I rarely make an all-out effort to do my best.

13. When I am faced with a difficult task, I think encouraging thoughts that help me do my best.

14. My mind often drifts to unpleasant events from the past.

15. I am the kind of person who takes action rather than just thinks and complains about a situation.

16. I believe in always looking at the positive side of things.

17. If I have something unpleasant to do, I try to make the best of it by thinking in positive terms.

18. I tend to take things personally.

19. I avoid challenges because it hurts too much when I fail.

20. I am very sensitive to being made fun of.

21. I have found that talking about successes that I am looking forward to can keep them from happening.

22. I spend a lot of time thinking about my mistakes even if there is nothing I can do about them.

23. I like to succeed, but I don't take failure as a tragedy.

24. It is foolish to trust anyone completely, as if you do, you are bound to get hurt.

25. When someone I love has rejected me, it has made me feel inadequate and that I will never be able to accomplish anything.

26. I tend to dwell more on pleasant than unpleasant incidents from the past.

27. When unpleasant things happen to me, I don't let them prey on my mind.

28. If I do very poorly on a test, I realize it is only a single test, and it doesn't make me feel generally incompetent.

29. When faced with a challenging situation, I try to imagine the best outcome and avoid thinking about what might go wrong.

30. I have learned from bitter experience that most people are not trustworthy.

31. When I am faced with a new situation, I tend to think the worst possible outcome will happen.

32. When something unfortunate happens to me, it reminds me of all the other things wrong in my life, which adds to my unhappiness.

Emotional Coping:

1. I don't let little things bother me.

2. I take failure very hard.

3. I am very sensitive to rejection.

4. If I said something foolish when I spoke up in a group, I would chalk it up to experience and not worry about it.

5. The slightest indication of disapproval gets me upset.

6. I worry a great deal about what other people think of me.

7. My mind often drifts to unpleasant events from the past.

8. I don't worry about things I can do nothing about.

9. I feel like a total failure if a don't achieve the goals I set for myself.

10. Unless I do a perfect job, I feel like a failure.

11. I am tolerant of my mistakes as I feel they are a necessary part of learning.

12. If I were rejected at an important job interview, I would feel very low and think that I would never be able to get a good job.

13. I tend to take things personally.

14. I don't feel that I have to perform exceptionally well in order to consider myself a worthwhile person.

15. I am very sensitive to being made fun of.

16. I spend a lot of time thinking about my mistakes even if there is nothing I can do about them.

17. I like to succeed, but I don't take failure as a tragedy.

18. When someone I love has rejected me, it has made me feel inadequate and that I will never be able to accomplish anything.

19. I tend to dwell more on pleasant than unpleasant incidents from the past.

20. When unpleasant things happen to me, I don't let them prey on my mind.

21. If I do very poorly on a test, I realize it is only a single test, and it doesn't make me feel generally incompetent.

22. When something unfortunate happens to me, it reminds me of all the other things wrong in my life, which adds to my unhappiness.

Behavioral Coping:

1. When I have a lot of work to do by a deadline, I waste a lot of time worrying about it instead of just doing it.

2. When doing unpleasant chores, I make the best of it by thinking pleasant or interesting thoughts.

3. I look at challenges not as something to fear, but as an opportunity to test myself and learn.

4. When faced with a large amount of work to complete, I tell myself I can never get it done, and feel like giving up.

5. It is so distressing for me to try hard and fail, that I rarely make an all-out effort to do my best.

6. When I realize I have made a mistake, I usually take immediate action to correct it.

7. When I am faced with a difficult task, I think encouraging thoughts that help me do my best.

8. I am the kind of person who takes action rather than just thinks and complains about a situation.

9. I believe in always looking at the positive side of things.

10. If I have something unpleasant to do, I try to make the best of it by thinking in positive terms.

11. I avoid challenges because it hurts too much when I fail.

12. When I have a lot of important things to take care of, I make a plan and stick to it.

13. When faced with a challenging situation, I try to imagine the best outcome and avoid thinking about what might go wrong.

14. I try to make an all-out effort in most things I do.

15. When faced with upcoming unpleasant events, I usually carefully think through how I will deal with them.

Categorical Thinking:

1. I tend to classify people as either for me or against me.

2. I feel that if people treat you badly, you should treat them the same way.

3. I believe that it is almost always better to come to firm decisions than to compromise.

4. There are two possible answers to every question, a right one and a wrong one.

5. There are two kinds of people in this world, winners and losers.

6. I think there are many wrong ways, but only one right way, to do almost anything.

7. I try to accept people as they are without judging them.

8. I believe once a criminal, always a criminal.

9. There are basically two kinds of people in this world, good and bad.

10. The only person I completely trust is myself.

11. It is foolish to trust anyone completely, as if you do, you are bound to get hurt.

12. I have learned from bitter experience that most people are not trustworthy.

Superstitious Thinking:

1. I sometimes think that if I want something to happen too badly, it will keep it from happening.

2. When something good happens to me, I believe it is likely to be balanced by something bad.

3. If something good happens to me, I tend to assume it was luck.

4. I've learned not to hope too hard, because what I hope for usually doesn't happen.

5. When something bad happens to me, I feel that more bad things are likely to follow.

6. I have found that talking about successes that I am looking forward to can keep them from happening.

7. I believe in good and bad omens.

8. When I am faced with a new situation, I tend to think the worst possible outcome will happen.

Naive Optimism:

1. If I do very well on a test, I realize it is only a single test, and it doesn't make me feel generally competent.

2. When I have learned that someone I love loves me, it has made me feel like a wonderful person and that I can accomplish whatever I want.

3. If someone I know were accepted at an important job interview, I would think that he or she would always be able to get a good job.

4. If someone I know does well on an important test, I feel that he or she is a total success and will go very far in life.

5. If I do well on an important test, I feel like a total success and that I will go far in life.

6. If I were accepted at an important job interview, I would feel very good and think that I would always be able to get a good job.

7. When something good happens to me, I feel that more good things are likely to follow.

8. When someone I know is loved by a person they love, I feel that they are a wonderful person and can accomplish anything they want to.

9. I believe that if I do something good, then good things will happen to me.

Esoteric Thinking:

1. I believe some people have the ability to read other people's thoughts.

2. I believe there are people who can project their thoughts into other people's minds.

3. Astrology will never explain anything.

4. I believe if I think terrible thoughts about someone, it can affect that person's well-being.

5. I believe the moon or the stars can affect people's thinking.

6. I believe if I wish hard enough for something, it can make it happen.

7. I believe that some people can make me aware of them just by thinking about me.

8. I believe in ghosts.

9. I have at least one good-luck charm.

10. I believe there are people who can see into the future.

11. I do not believe in any superstitions.

12. I believe in flying saucers.

APPENDIX D

REVISED SYMPTOM CHECKLIST (SCL-90-R)

Below is a list of problems and complaints that people sometimes have. Please read each one carefully. Decide on the answer that best describes how much discomfort that problem has caused you during the past week including today. Please fill in the circle corresponding to your answer on the scantron sheet. Please do not skip any items.

Please use the following scale to indicate your responses:

not at all	a little bit	moderately	quite a bit	extremely
0	1	2	3	4

In the past week, including today, how much were you distressed by:

1. Headaches
2. Nervousness or shakiness inside
3. Repeated unpleasant thoughts that won't leave your mind
4. Faintness or dizziness
5. Loss of sexual interest or pleasure
6. Feeling critical of others
7. The idea that someone else can control your thoughts
8. Feeling that others are to blame for most of your troubles
9. Trouble remembering things
10. Worried about sloppiness or carelessness
11. Feeling easily annoyed or irritated
12. Pains in heart or chest
13. Feeling afraid in open spaces or on the streets
14. Feeling low in energy or slowed down

15. Thoughts of ending your life
16. Hearing voices that other people do not hear
17. Trembling
18. Feeling that most people cannot be trusted
19. Poor appetite
20. Crying easily
21. Feeling shy or uneasy with the opposite sex
22. Feelings of being trapped or caught
23. Suddenly scared for no reason
24. Temper outbursts that you could not control
25. Feeling afraid to go out of your house alone
26. Blaming yourself for things
27. Pains in lower back
28. Feeling blocked in getting things done
29. Feeling lonely
30. Feeling blue
31. Worrying too much about things
32. Feeling no interest in things
33. Feeling fearful
34. Your feelings being easily hurt
35. Other people being aware of your private thoughts
36. Feeling others do not understand you or are unsympathetic
37. Feeling that people are unfriendly or dislike you.
38. Having to do things very slowly to insure correctness
39. Heart pounding or racing
40. Nausea or upset stomach

41. Feeling inferior to others

42. Soreness of your muscles

43. Feeling that you are watched or talked about by others

44. Trouble falling asleep

45. Having to check and double-check what you do

46. Difficulty making decisions

47. Feeling afraid to travel on buses, subways, or trains

48. Trouble getting your breath

49. Hot or cold spells

50. Having to avoid certain things, places, or activities because they frighten you.

51. Your mind going blank

52. Numbness or tingling in parts of your body

53. A lump in your throat

54. Feeling hopeless about the future

55. Trouble concentrating

56. Feeling weak in parts or your body

57. Feeling tense or keyed up

58. Heavy feelings in your arms or legs

59. Thoughts of death or dying

60. Overeating

61. Feeling uneasy when people are watching or talking about you

62. Having thoughts that are not your own

63. Having urges to beat, injure, or harm someone

64. Awakening in the early morning

65. Having to repeat the same actions such as touching, counting, or washing

66. Sleep that is restless or disturbed

67. Having urges to break or smash things

68. Having ideas or beliefs that others do not share

69. Feeling very self-conscious with others

70. Feeling uneasy in crowds, such as shopping or at a movie

71. Feeling everything is an effort

72. Spells of terror or panic

73. Feeling uncomfortable about eating or drinking in public

74. Getting into frequent arguments

75. Feeling nervous when you are left alone

76. Others not giving you proper credit for your achievements

77. Feeling lonely even when you are with people

78. Feeling so restless you couldn't sit still

79. Feelings of worthlessness

80. The feeling that something bad is going to happen to you

81. Shouting or throwing things

82. Feeling afraid you will faint in public

83. Feeling that people will take advantage of you if you let them

84. Having thoughts about sex that bother you a lot

85. The idea that you should be punished for your sins

86. Thoughts and images of a frightening nature

87. The idea that something is seriously wrong with your body

88. Never feeling close to another person

89. Feelings of guilt

90. The idea that something is wrong with your mind

APPENDIX E

NEGATIVE LIFE EVENTS AND TRAUMA MEASURE

Please answer the remaining questions on this form, not on your opscan sheets.

Below is a list of experiences that people can have in their lives. Please indicate if you have experienced any of the following events in your lifetime. Mark you responses directly on this questionnaire. For each event that you have experienced, please answer all of the questions pertaining to that event. If you have experienced any of these events more than once, please answer the questions by considering the impact of all of the relevant instances.

You may have experienced an event which you feel can be classified more than one way. For example, rape by a cousin when you were 10 may be classified as both rape by an acquaintance and incest. In these cases, do not rate the event in more than one section. Please decide which of these classifications is most appropriate and only include that event once in this survey.

In your lifetime:

1. Did one of your parents die?
   yes no

If you answered "no" please move to question 5. If you answered "yes" please complete the next three questions.

2. Did one or both of your parents die? _____
3. How old were you when your parent(s) died? _____
4. Please rate how traumatic this event or these events were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

5. Did one of your siblings die?
   yes no

If you answered "no" please move to question 9. If you answered "yes" please complete the next three questions.

6. How many of your siblings died? _____
7. How old were you when your sibling or siblings died? _____
8. Please rate how traumatic this event or these events were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

9. Did someone you were close to, other than a parent or sibling, die?

yes no

If you answered "no" please move to question 13. If you answered "yes" please complete the next three questions.

10. How many friends or non-immediate family relatives have you known who have died? _____
11. How old were you when this person or these persons died? _____
12. Please rate how traumatic this event or these events were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

13. Have you ever been diagnosed with a life-threatening illness?

yes no

If you answered "no" please move to question 17. If you answered "yes" please complete the next three questions.

14. How many different life-threatening illnesses have you been diagnosed with? _____
15. How old were you when you were given this diagnosis or these diagnoses? _____
16. Please rate how traumatic this diagnosis or these diagnoses were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

17. Has one of your parents or siblings been diagnosed with a life-threatening illness?

yes no

If you answered "no" please move to question 21. If you answered "yes" please complete the next three questions.

18. How many of your parents or siblings have been diagnosed with a life-threatening illness? _____

19. How old were you when they were given this diagnosis or these diagnoses? _____

20. Please rate how traumatic their diagnosis or diagnoses were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

21. Have you ever been diagnosed with a serious, but not life-threatening illness?

yes no

If you answered "no" please move to question 25. If you answered "yes" please complete the next three questions.

22. How many different serious, but not life-threatening illnesses have you been diagnosed with? _____

23. How old were you when you were given this diagnosis or these diagnoses? _____

24. Please rate how traumatic this diagnosis or these diagnoses were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

25. Has one of your parents or siblings been diagnosed with a serious, but not life-threatening illness?

yes no

If you answered "no" please move to question 29. If you answered "yes" please complete the next three questions.

26. How many of your parents or siblings have been diagnosed with a serious, but not life-threatening illness?_____

27. How old were you when they were given this diagnosis or these diagnoses? _____

28. Please rate how traumatic their diagnosis or diagnoses were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

29. Have you experienced a serious disability which was not the result of an accident?

yes no

If you answered "no" please move to question 33. If you answered "yes" please complete the next three questions.

30. How many different non-accident related disabilities have you experienced?

_____

31. How old were you when you became disabled?

_____

32. Please rate how traumatic this disability or these disabilities were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

33. Has any member of your immediate family experienced a serious disability which was not the result of an accident?

yes no

If you answered "no" please move to question 37. If you answered "yes" please complete the next three questions.

34. How many members of your immediate family have experienced a non-accident related disability?

_____

35. How old were you when they became disabled?

_____

36. Please rate how traumatic their disability or disabilities were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

37. Have you ever experienced an accident which resulted in your becoming seriously disabled?

yes no

If you answered "no" please move to question 41. If you answered "yes" please complete the next three questions.

38. How many different accident-related disabilities have you experienced? _____

39. How old were you when you became disabled?

_____

40. Please rate how traumatic this disability or these disabilities were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

41. Has any member of your immediate family experienced an accident where he or she became seriously disabled?

yes no

If you answered "no" please move to question 45. If you answered "yes" please complete the next three questions.

42. How many members of your immediate family have experienced an accident-related disability?

_____

43. How old were you when they became disabled?

_____

44. Please rate how traumatic their disability or disabilities were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

45. Was your home ever destroyed by a fire or natural disaster?

yes no

If you answered "no" please move to question 49. If you answered "yes" please complete the next three questions.

46. How many times did you have your home destroyed?

_____

47. How old were you when your home was destroyed?

_____

48. Please rate how traumatic this destruction was for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

49. Did you ever experience verbal abuse when you were a child?

yes no

If you answered "no" please move to question 53. If you answered "yes" please complete the next three questions.

50. On how many separate occasions were you verbally abused as a child? _____

51. How old were you when this incident or these incidents occurred? _____

52. Please rate how traumatic this incident or these incidents were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

53. Did you ever experience non-sexual physical abuse when you were a child?

yes no

If you answered "no" please move to question 57. If you answered "yes" please complete the next three questions.

54. On how many separate occasions were you physically abused as a child? _____

55. How old were you when this incident or these incidents occurred? _____

56. Please rate how traumatic this incident or these incidents were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

57. Did you ever experience incest or sexual abuse when you were a child?

yes no

If you answered "no" please move to question 61. If you answered "yes" please complete the next three questions.

58. On how many separate occasions did you experience incest or sexual abuse as a child? _____

59. How old were you when this incident or these incidents occurred? _____

60. Please rate how traumatic this incident or these incidents were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

61. Were you ever raped by a stranger?
yes no

If you answered "no" please move to question 65. If you answered "yes" please complete the next three questions.

62. On how many separate occasions were you raped by a stranger? _____

63. How old were you when this incident or these incidents occurred? _____

64. Please rate how traumatic this incident or these incidents were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

65. Were you ever raped by an acquaintance?
yes no

If you answered "no" please move to question 69. If you answered "yes" please complete the next three questions.

66. On how many separate occasions were you raped by an acquaintance? _____

67. How old were you when this incident or these incidents occurred? _____

68. Please rate how traumatic this incident or these incidents were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

69. Did you ever experience a sexual assault other than rape or child sexual abuse?
yes no

If you answered "no" please move to question 73. If you answered "yes" please complete the next three questions.

70. On how many separate occasions were you sexually assaulted? _____

71. How old were you when this incident or these incidents occurred? _____

72. Please rate how traumatic this incident or these incidents were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

73. Did you ever experience a non-sexual physical assault by a stranger?

yes no

If you answered "no" please move to question 77. If you answered "yes" please complete the next three questions.

74. How many times have you experienced a physical assault by a stranger? _____

75. How old were you when this event or these events occurred? _____

76. Please rate how traumatic this event or these events were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

77. Did you ever experience a non-sexual physical assault by an acquaintance?

yes no

If you answered "no" please move to question 81. If you answered "yes" please complete the next three questions.

78. How many of times have you experienced a physical assault by an acquaintance?

_____

79. How old were you when this event or these events occurred? _____

80. Please rate how traumatic this event or these events were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic	
1	2	3	4	5	6	7	8

81. It is impossible to devise a list that includes all of the difficult events people may experience in their lives. If we have omitted any difficult event which you have experienced please describe it and answer the following questions for that event. If you have experienced more than one of these events, please use the remaining space on the next page to list them and answer the same three questions for each event. If you have not experienced any difficult events other than those we have identified, please move to the background questionnaire.

Please describe this event _____

82. On how many separate occasions did this event occur? _____

83. How old were you when this event or these events occurred? _____

84. Please rate how traumatic this event or these events were for you:

Not at all Traumatic		Somewhat Traumatic		Very Traumatic		Extremely Traumatic
1	2	3	4	5	6	7 8

APPENDIX F

DEMOGRAPHIC INFORMATION

GENDER: MALE _____ FEMALE _____

AGE: _____

GRADUATING CLASS: 90 91 92 93 other

CURRENT RELIGIOUS AFFILIATION: _____

Do you think you have a strong religious affiliation?
yes_____ no_____

RACE: _____

MARITAL STATUS:
single _____ married _____ separated _____ divorced _____

NUMBER OF CHILDREN: _____

FAMILY BACKGROUND

Where did you mostly live while you were growing up:

rural or country area _____ small town _____
small city _____ suburb of a city _____
large city _____ other (specify) _____

Number of brothers: (give ages)

_____ _____ _____ _____ _____

Number of sisters: (give ages)

_____ _____ _____ _____ _____

Parents' level of education:	Mother	Father
High school or less	_____	_____
Some college	_____	_____
College graduate	_____	_____
Beyond college	_____	_____

Parents' religious affiliation: _____

Are your parents:
married _____ separated _____ divorced _____
widow/widower _____

APPENDIX G

CORRELATIONS BETWEEN MAJOR VARIABLES FOR THE WHOLE SAMPLE

Table G.1

Correlations between global constructive thinking, emotional coping, behavioral coping, and categorical thinking with major variables

	Global CTI	Emotional Coping	Behavioral Coping	Categorical Thinking
Overall self-complexity	-.0874	-.1137	-.0274	-.0397
Positive self-complexity	.1233	.0624	.1492	-.1252
Negative self-complexity	-.3882	-.3455	-.3123	.1209
SCL-90-R	-.5986	-.5658	-.3773	.2751
RSI	.6992	.6208	.6156	-.2751
Overall self rating	.5347	.4401	.5658	-.1896
Number of subselves	.0418	.0142	.0563	-.0377
Proportion of positive subselves	.4058	.3850	.3250	-.2202
Number of positive subselves	.2070	.1706	.1851	-.1159
Number of negative subselves	-.3434	-.3341	-.2615	.1581

Correlations ranging from .1260 to .1750 and -.1260 to -.1750 are significant at $p < .05$
Correlations ranging from .1751 to .2150 and -.1751 to -.2150 are significant at $p < .01$
Correlations greater than .2046 or less than -.2046 are significant at $p < .001$

Table G.2

Correlations between superstitious thinking, naive optimism, and esoteric thinking with major variables

	Superstitious Thinking	Naive Optimism	Esoteric Thinking
Overall self-complexity	.0679	.0507	.0766
Positive self-complexity	-.0793	.0650	.0123
Negative self-complexity	.2723	-.0123	.1253
SCL-90-R	.5111	.0914	.2047
RSI	-.5233	.1009	-.0693
Overall self rating	-.3690	.1142	-.0622
Number of subselves	-.0131	.0503	.0753
Proportion of positive subselves	-.3119	.0470	-.1126
Number of positive subselves	-.1371	.0719	.0345
Number of negative subselves	.2651	-.0308	.1130

Correlations ranging from .1260 to .1750 and -.1260 to -.1750 are significant at $p < .05$
Correlations ranging from .1751 to .2150 and -.1751 to -.2150 are significant at $p < .01$
Correlations greater than .2046 or less than -.2046 are significant at $p < .001$

Table G.3

Correlations between complexity measures and major variables

	Overall self-complexity	Positive self-complexity	Negative self-complexity
Overall self-complexity	———	.8974	.7513
Positive self-complexity	.8974	———	.4027
Negative self-complexity	.7513	.4027	———
SCL-90-R	.1456	-.0191	.3243
RSI	-.0492	.1540	-.3602
Overall self rating	-.1509	.1014	-.4923
Number of subselves	.7029	.6922	.4838
Proportion of positive subselves	-.1272	.1836	-.5554
Number of positive subselves	.6164	.7377	.2298
Number of negative subselves	.4140	.1245	.7063

Correlations ranging from .1260 to .1750 and -.1260 to -.1750 are significant at $p < .05$
Correlations ranging from .1751 to .2150 and -.1751 to -.2150 are significant at $p < .01$
Correlations greater than .2046 or less than -.2046 are significant at $p < .001$

Table G.4

Correlations between SCL-90-R, RSI, overall self rating, and number of subselves with major variables

	SCL-90-R	RSI	Overall self rating	Number of subselves
Overall self-complexity	.1456	-.0492	-.1509	.7029
Positive self-complexity	-.0191	.1540	.1014	.6922
Negative self-complexity	.3243	-.3602	-.4923	.4838
SCL-90-R	_____	-.5096	-.4278	.0205
RSI	-.5096	_____	.6271	.0290
Overall self rating	-.4278	.6271	_____	-.0445
Number of subselves	.0205	.0290	-.0445	_____
Proportion of positive subselves	-.3356	.4084	.4579	-.0994
Number of positive subselves	-.1106	.1795	.1264	.9169
Number of negative subselves	.2907	-.3166	-.3845	.5023

Correlations ranging from .1260 to .1750 and -.1260 to -.1750 are significant at $p < .05$
Correlations ranging from .1751 to .2150 and -.1751 to -.2150 are significant at $p < .01$
Correlations greater than .2046 or less than -.2046 are significant at $p < .001$

Table G.5

Correlations between the proportion of positive subselves, number of positive and negative subselves, and major variables

	Proportion of positive subselves	Number of positive subselves	Number of negative subselves
Overall self-complexity	-.1272	.6164	.4140
Positive self-complexity	.1836	.7377	.1245
Negative self-complexity	-.5554	.2298	.7063
SCL-90-R	-.3356	-.1106	.2907
RSI	.4084	.1795	-.3166
Overall self rating	.4579	.1264	-.3845
Number of subselves	-.0994	.9169	.5023
Proportion of positive subselves	———	.2690	-.8301
Number of positive subselves	.2690	———	.1154
Number of negative subselves	-.8301	.1154	———

Correlations ranging from .1260 to .1750 and -.1260 to -.1750 are significant at $p < .05$
Correlations ranging from .1751 to .2150 and -.1751 to -.2150 are significant at $p < .01$
Correlations greater than .2046 or less than -.2046 are significant at $p < .001$

Table G.6

Correlations between the number of negative events experienced, the sum of all the trauma ratings, and the average trauma rating with major variables

	Number of negative events experienced	Sum of all trauma ratings	Average trauma rating
Overall self-complexity	.2472	.2383	.0682
Positive self-complexity	.1981	.1927	.0854
Negative self-complexity	.2244	.2047	.0012
SCL-90-R	.1376	.1598	.1960
RSI	-.0891	-.1051	-.0829
Overall self rating	-.1033	-.1100	-.0839
Number of subselves	.1224	.0953	-.0117
Proportion of positive subselves	-.0678	-.0791	-.0446
Number of positive subselves	.1020	.0850	-.0086
Number of negative subselves	.0837	.0531	-.0105

Correlations ranging from .1260 to .1750 and -.1260 to -.1750 are significant at $p < .05$
Correlations ranging from .1751 to .2150 and -.1751 to -.2150 are significant at $p < .01$
Correlations greater than .2046 or less than -.2046 are significant at $p < .001$

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